

(Per ILA Approval Requirements)

☐ CA Approval

☒ JB Approval

**REGIONAL FARE COORDINATION SYSTEM  
CHANGE ORDER NO. 12**

**CONTRACTOR:** ERG Transit Systems (USA) Inc.  
**CONTRACT NUMBER:** 229944

This Change Order to Contract #229944 ("Change Order") is executed as of 11/30/05, by and between ERG Transit Systems (USA) Inc, a California corporation and wholly owned subsidiary of ERG Limited, an Australian corporation, (hereinafter referred to as the "Contractor") and each of the following seven public transportation agencies (hereinafter referred to individually as an "Agency" or collectively as the "Agencies"):

1. Central Puget Sound Regional Transit Authority ("Sound Transit")
2. King County ("King County")
3. Kitsap County Public Transportation Benefit Area ("Kitsap Transit")
4. Pierce County Public Transportation Benefit Area ("Pierce Transit")
5. Snohomish County Public Transportation Benefit Area ("Community Transit")
6. City of Everett ("Everett")
7. State of Washington, acting through the Washington State Department of Transportation, Washington State Ferries Division ("WSF")

**Background**

- A. Effective April 29, 2003, each of the Agencies and the Contractor entered into Contract #229944 ("Contract") to implement a Regional Fare Coordination System ("RFC System") to establish a common fare system utilizing smart card technology. The Contractor is responsible for the development, implementation, operation and maintenance of the RFC System as specified in the Contract.
- B. The Agencies and the Contractor desire to execute this Change Order No. 12 to modify the Contract as needed to be consistent with certain design decisions that have been made.

**Agreements**

The Agencies and the Contractor hereby agree to the following changes to the Contract.

**1.0 Communications Networks**

Section 6.II-8, "Network Management," is replaced in its entirety by the attached CO-12 Attachment A.

## **2.0 Security**

Section 6.III-1.3, "System Security," is replaced in its entirety by the attached CO-12 Attachment B.

## **3.0 WDOLS**

Section 6.III-7, "Wireless Data On/Off Loading System (WDOLS)", is replaced in its entirety by the attached CO-12 Attachment C.

## **4.0 SNMP Collection Server**

### **4.1 King County**

The Contractor shall supply, install and configure an SNMP collection server and related software, as described below and in accordance with Section 3.1-35.4.5, "Third Party Software."

The collection server and related software shall be the versions of the following that are current at the time of purchase.

<b>Sun Hardware:</b>	<b>Item</b>	<b>Quantity</b>
Configuration: N32-XUB1B1512HA		
Sun Fire V240, 1 x 1GHz	1 GHz CPU	1
UltraSPARC IIIi, 2 x 256MB	512 MB total Memory	2 (256 Mb Simms)
OIMMS, 1 x 73GB Drive, 4 x	73 GB Hard Drive	1
10/100/1000 Gigabit Ethernet, ALOM	10/100/1000 Gigabit Network Card	4 slots - 2 cards
Remote Manager, Three PCI Slots,	OVD-ROM Internal (Slimline)	1
Localized Power Cord Kit USA Power Kit		
X-Option - Internal DVD-ROM Drive		
Slimline, for Sun Fire V210 and Sun		
Fire V240.		
<b>Sun Software:</b>		
1PSU & Java ES & Solaris 9 preinstalled.	Solaris 9 preinstalled	
Solaris 9 4/04 CD-ROM media kit.	Software Media Kit	
SPARC Platform Edition.		

### **HP Software for SUN solaris**

NNM 7.50 Media (CD-ROM) Contains HP-UX Sol Win and Lnx media for NNM SE 7.50 and NNM AE 7.50	HP OpenView software and license.
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The purpose, operation and other details concerning the SNMP collection server are described in DR-7D, "Communication Network King County Metro." The Contractor shall be responsible for said SNMP collection server's testing, software installation, set-up, connection to the Contractor-supplied network, and on-going maintenance. King County's SNMP collection server and specified software shall be covered under the Contract as are all other Contractor-supplied equipment and software.

### **4.2 WSF**

WSF shall supply and maintain its own SNMP collection server. The Contractor shall supply, install and configure HP Open View Software on the WSF server, including the Application Configuration, Application Path Management, and Application Upgrades as defined in DR 7H, Communication Network Washington State Ferries, Section 6.1 Management Responsibilities Matrix, Table 7. 13.8 – 13.11.

## **5.0 Warranty and Maintenance**

The Contractor and Agencies hereby agree to amend Section 3.I-58, "RFC System Warranty and Post-Warranty Maintenance", Exhibit 14, "Post Warranty Depot Maintenance" and Exhibit 15, "Post Warranty On-Site Maintenance", all as provided in Amendment Eleven, without further execution, a copy of which is attached hereto as CO-12 Attachment D.

## **6.0 Compensation Changes**

6.1 The Contractor and the Agencies agree to amend the price schedule in order to clarify the meaning of certain provisions, reflect decisions made during the design phase and provide for prices related to the SNMP collection server and all related software. This Change Order No. 12 shall give rise to no additional compensation except as specified in the following sections for the SNMP collection server and all related software:

- a. Exhibit 9, Section II, "Equipment Prices" is replaced in its entirety by the attached Change Order No. 12 - Attachment D.
- b. Exhibit 9, Section IV, "Equipment Installation" is replaced in its entirety by the attached Change Order No. 12 - Attachment D.
- c. Exhibit 9, Section VIII, "Maintenance Service Contract", is replaced in its entirety by the attached Change Order No. 12 - Attachment D.

6.2 The Quantities Order List shall be reduced to reflect that:

- a. No WDOLS access points will be supplied and installed by ERG for King County and WSF under Ex.9, Sec. II and Sec. IV.
- b. Fewer WDOLS access points will be covered by Depot Maintenance and Tech Support under Ex.9, Sec. VIII.

## **7.0 No Implied Changes**

All other provisions of the Contract not expressly changed by this Change Order No. 12 shall remain in effect unless modified in other executed Amendments and Change Orders.

IN WITNESS WHEREOF, the parties hereto have executed this Change Order No. 12 to Contract #229944 as of the date set forth below its signature.

**ERG Transit Systems (USA) Inc.**

By: *Pete Brand* for Kevin Taylor  
Its: PROJECT MANAGER

Date: 9/7/05

**Central Puget Sound Regional Transit Authority**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**King County**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**Pierce County Public Transportation Benefit Area**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**Washington State Ferries, Washington State Department of Transportation**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**City of Everett**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**Kitsap County Public Transportation Benefit Area**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**Snohomish County Public Transportation Benefit Area**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

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**ERG Transit Systems (USA) Inc.**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Central Puget Sound Regional Transit Authority**

By: John M. Earl  
Its: CEO  
Date: 9-7-05

**City of Everett**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**King County**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**Kitsap County Public Transportation Benefit Area**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**Pierce County Public Transportation Benefit Area**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**Snohomish County Public Transportation Benefit Area**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**Washington State Ferries, Washington State Department of Transportation**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

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**ERG Transit Systems (USA) Inc.**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Central Puget Sound Regional Transit Authority**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**King County**

By: Julie Semore

Its: G.M.

Date: 7/2

**Pierce County Public Transportation Benefit Area**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Washington State Ferries, Washington State Department of Transportation**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**City of Everett**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Kitsap County Public Transportation Benefit Area**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Snohomish County Public Transportation Benefit Area**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

IN WITNESS WHEREOF, the parties hereto have executed this Change Order No. 12 to Contract #229944 as of the date set forth below its signature.

**ERG Transit Systems (USA) Inc.**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Central Puget Sound Regional Transit Authority**

**City of Everett**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**King County**

**Kitsap County Public Transportation Benefit Area**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Pierce County Public Transportation Benefit Area**

**Snohomish County Public Transportation Benefit Area**

By:  \_\_\_\_\_

Its:  \_\_\_\_\_

Date:   \_\_\_\_\_

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Washington State Ferries, Washington State Department of Transportation**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

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**ERG Transit Systems (USA) Inc.**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Central Puget Sound Regional Transit Authority**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**City of Everett**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**King County**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Kitsap County Public Transportation Benefit Area**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Pierce County Public Transportation Benefit Area**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Snohomish County Public Transportation Benefit Area**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Washington State Ferries, Washington State Department of Transportation**

By: W. Michael Anderson

Its: Executive Director

Date: September 8, 2005



IN WITNESS WHEREOF, the parties hereto have executed this Change Order No. 12 to Contract #229944 as of the date set forth below its signature.

**ERG Transit Systems (USA) Inc.**

**The Agencies**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

By: \_\_\_\_\_  
Their: \_\_\_\_\_  
On behalf of the Agencies  
Date: \_\_\_\_\_

**Central Puget Sound Regional Transit Authority**

**City of Everett**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

By: Paul Stephenson  
Ray Stephenson, Mayor, or His Designee  
Date: 10/28/05

**King County**

ATTEST: Sharon Marks  
By: \_\_\_\_\_  
Sharon Marks, City Clerk  
Date: 11/30/05

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**APPROVED AS TO FORM:**

**Pierce County Public Transportation Benefit Area**

By: James D. Iles  
James D. Iles, City Attorney  
Date: 11/28/05

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**Kitsap County Public Transportation Benefit Area**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

**Washington State Ferries, Washington State Department of Transportation**

**Snohomish County Public Transportation Benefit Area**

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

By: \_\_\_\_\_  
Its: \_\_\_\_\_  
Date: \_\_\_\_\_

IN WITNESS WHEREOF, the parties hereto have executed this Change Order No. 12 to Contract #229944 as of the date set forth below its signature.

**ERG Transit Systems (USA) Inc.**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Central Puget Sound Regional Transit Authority**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**King County**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Pierce County Public Transportation Benefit Area**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Washington State Ferries, Washington State Department of Transportation**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**City of Everett**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Kitsap County Public Transportation Benefit Area**

By: Joe M. Hay

Its: EXEC. DIR.

Date: 9/2/05

**Snohomish County Public Transportation Benefit Area**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

IN WITNESS WHEREOF, the parties hereto have executed this Change Order No. 12 to Contract #229944 as of the date set forth below its signature.

**ERG Transit Systems (USA) Inc.**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Central Puget Sound Regional Transit Authority**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**King County**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Pierce County Public Transportation Benefit Area**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Washington State Ferries, Washington State Department of Transportation**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**City of Everett**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Kitsap County Public Transportation Benefit Area**

By: \_\_\_\_\_

Its: \_\_\_\_\_

Date: \_\_\_\_\_

**Snohomish County Public Transportation Benefit Area**

By: 1/16/05

Its: Chief Operating Officer

Date: 9/6/05

## **6.II-8 NETWORK MANAGEMENT**

### **6.II-8.1 Network Management Description**

The RFCS program inherently will require a distribution of functions to many locations which will be linked together through a telecommunications infrastructure. Information shall flow between the points of service, the revalue network, the data acquisition system and fare transaction processors, the clearinghouse system and the various Agencies back office systems.

The Agencies will provide local communications in the Central Puget Sound Region to all Agency facilities using Government data networks and/or local commercial communications service providers.

The Contractor shall provide communications to services and facilities outside the Central Puget Sound Region (e.g. remote clearinghouse, second-tier customer service center, repair facility, etc.), the retail communications network, and (if required) communications to institutions (DR 7).

### **6.II-8.2 Functional Requirements**

#### **8.2.1 Agency-Supplied Networks**

- (a) The Agencies will provide and maintain local communications to transit bases, ferry and rail terminals, Agency headquarters, and other Agency locations in the Central Puget Sound Region to meet communications requirements specified by the Contractor. Communications will be provided between the following RFCS nodes at Agency facilities:
  - i. Operating Base WDOLS Access Points
  - ii. Data Acquisition Computers (DACs)
  - iii. Back Office Computer (BOC) Server
  - iv. BOC Client
  - v. SNMP Collection Server (if applicable)
  - vi. WSF Gate Adaptation Kit (GAK) Fare Processor
  - vii. Stand-Alone/On-line Fare Transaction Processors (FTPs)
  - viii. Sound Transit CDCS
  - ix. Sound Transit TVMs
  - x. Customer Service Terminals
  - xi. Point of Sale (POS) Server (if applicable)
  - xii. Agency Back Office Systems

- (b) The Agencies will provide local communications links to credit card, debit card, and ACH networks for endpoints where the Agencies are the merchant of record, except for those transactions conducted via the RFCS website for which the Contractor is responsible for providing said communication links.
- (c) Local communications facilities shall consist of existing Government and/or commercial carrier networks. The Agencies will be responsible for providing the necessary equipment and network management, authentication and access control for their local communication networks.
- (d) The Contractor shall be responsible for fault detection and performance monitoring of Agency provided communications network equipment to which the Contractor has been given specific access privileges and monitoring capabilities based on the roles and responsibilities of the Contractor and the Agencies described in the FDR documents. If the Contractor is denied direct access to agency supplied network equipment, then the Contractor may be forwarded SNMP information via an agency designated SNMP collection server. The ability of the Contractor to perform the detection and monitoring activities on Agency-supplied equipment will be dependent, in this case, on the type of SNMP information provided.
- (e) The Contractor shall identify network capacity, security and performance requirements required for RFCS operation.

#### **8.2.2 Contractor Supplied Networks**

- (a) The Contractor shall provide communications to support all system interfaces not included in the Agency supplied network. At a minimum, the network shall provide for the interconnection of the following:
  - i. Local devices connected through the Agency supplied network.
  - ii. Clearinghouse system
  - iii. Contractor provided call and repair centers
  - iv. Debit, credit and ACH networks
  - v. Revalue network
  - vi. Institutional Programs (if required)
  - vii. Internet
- (b) The Contractor shall provide a network configuration that shall provide adequate availability and capacity to meet the demands of each individual interface and end point. Such communications

may include, subject to each Agency's approval which shall not be unreasonably denied, on-demand (dial) services, radio frequency, leased line, frame relay, packet switched, Internet access, satellite, or any other transport mode according to the Contractor's selected solution.

- (c) The provision and management of network components will be subject to individual Agency maintenance practices.
- (d) The network shall include backup communications in the event of a failure of the primary link.

#### **8.2.3 Network Management (DR 7.01)**

- (a) The Contractor shall provide network management services necessary to monitor and support the network infrastructure (both Agency and Contractor supplied) to ensure continued high availability and transaction throughput. The Contractor shall notify the Agencies of any network conditions or events that appear to affect RFCS operations including but not limited to data throughput.
- (b) Monitoring and management of each Agency's network shall be per Agency policy and systems.
- (c) In the event that Agency firewalls or other protections prevent direct monitoring of devices connected to the Agency network, the network management system shall accept fault detection or alarms by Agency monitoring systems.
- (d) The Contractor shall notify the Agencies or their designates in the event of fault detection or failure of the Agency supplied network to meet performance requirements.
- (e) The Contractor shall provide a network backup and disaster recovery plan, procedures and systems (CDRL 5).

#### **8.2.4 Data and Operations Management (DR 7.02)**

- (a) The Contractor shall provide services and systems for:
  - i. The regular backup of all data
  - ii. Off-site archiving
  - iii. Reporting
  - iv. Data recovery
- (b) The Contractor shall identify in Design Review documentation (DR 7.02):

- i. Points of risk, failure or uncertainty in the communications network.
- ii. Procedures for maintaining the integrity of all data.
- iii. Bandwidth, availability and other requirements for the Agency supplied communications network to meet the performance requirements of 6.II-8.3.

### **6.II-8.3 Performance Requirements**

- (a) The communications network shall have a minimum 99% availability 24 hours a day, 7 days a week, per the availability formula contained in Section 6.III-1.5.2.
- (b) On-line transaction response times shall be less than two (2) seconds from the request being sent to the end point plus time required for credit and debit card authorization (if applicable).
- (c) Network capacity shall be provided so that all daily upload and download activity is completed within one (1) hour.
- (d) The Contractor shall not be responsible for failure to meet the above performance requirements to the extent the failure was caused by the Agency-supplied network

### 6.III-1.3 System Security

The Contractor shall develop a comprehensive System Security Plan (CDRL 31) which identifies the system elements which require protection, and identifies mechanisms, procedures and processes to counter security threats to those elements.

- (a) The System Security Plan shall describe the intended functionality for each of the system security elements, shall identify security threats, and shall describe procedures, functions and systems for detecting and mitigating those threats.
- (b) The System Security Plan shall identify system users, and describe rules that govern how those users will have access to system data, resources and processes.
- (c) The System Security Plan shall identify methods of detecting security breaches regardless of whether there is a detectable change in the performance of the system. All security breach detection's shall be confidential, and accessible only to users with appropriate access permission.
- (d) Security provisions for Agency-supplied and Contractor-supplied communications networks shall be described.
- (e) The System Security Plan shall be submitted with the design documentation.
- (f) The System Security Plan shall be approved by the Contract Administrator.
- (g) The Contractor shall implement system security services to achieve the approved System Security Plan.
- (h) The Contractor shall be responsible for providing security for Contractor-supplied RFCS equipment and facilities, and security recommendations for Agency-supplied RFCS facilities and equipment regardless of existing security facilities and systems provided by the Agencies or others.

#### 1.3.1 System Elements and Protection

- (a) At a minimum, the system security shall protect the following types of RFC system elements:
  - i. Equipment and facilities installed in public locations.
  - ii. Equipment and facilities installed in Contractor-owned or operated locations.



- iii. Equipment and facilities installed in Agency-owned facilities.
  - iv. Software source and compiled code.
  - v. Data communications and interfaces.
  - vi. Other communications and interfaces as might be required for the work.
  - vii. System data.
- (b) The Contractor shall coordinate with each Agency to develop system security elements and procedures that function with existing Agency firewalls and shall identify for each Agency any recommended measures to secure Agency-supplied communications networks.

### 1.3.2 System Security General Services

At a minimum, the system security shall provide the following types of services:

- (a) All RFC systems, subsystems and devices shall allow only authorized users access.
- (b) The system shall provide access control based on the establishment of groups, users and roles:
  - i. Groups, users and roles shall be assigned during system implementation as directed by the Contract Administrator.
  - ii. A minimum of ten (10) groups shall be provided for.
  - iii. Each user shall have a unique identification and password.
  - iv. The system shall include flexibility to add new groups, roles and users, redefine groups and roles, and reassign access permission as part of normal system operations. Access permission shall be assigned by the System Administrator.
- (c) All system access shall be recorded.
- (d) The system security shall include features to limit the propagation of access permission.
- (e) For all data transactions, the system security shall include authentication features to verify that all claimed source, recipient or user identities are correct and valid.
- (f) All data transactions shall include non-repudiation features to verify message content, and resolve claims that data was not correctly originated or received by a certain user.

#### 1.3.2.1

#### Protection from Unauthorized Access

As a minimum, the system security shall provide protection from intentional or accidental unauthorized access including the following:

- (a) Physical access to equipment or facilities.
- (b) Access to Contractor provided computing systems and software.
- (c) Access to Agency computing systems and software.
- (d) Access to funds, accounts and funds-related data, owned and non-owned.
- (c) Destruction, removal, corruption or modification of data or other resources.
- (f) Interruption of service, including as a minimum component, device, subsystem or system operation, and system communications.
- (g) Access to any system stored or created data.

#### 1.3.2.2

#### Data Integrity

The system security shall provide features to maintain data integrity, including as a minimum:

- (a) Error checking shall be provided.
- (b) Data transferred from a device or system shall not be purged or written over until a successful transfer is confirmed.
- (c) Features shall be provided to ensure that all transaction and system-created files are uniquely identified, and that no files are lost or missed during data transfer. Verification features shall be provided to confirm that there have been no losses of data at any point in the system.
- (d) Verification features shall be provided to confirm that there have been no unauthorized changes to or destruction of data.
- (e) Features shall be provided to automatically detect, correct and prevent the propagation of invalid or erroneous data throughout the system.

#### 1.3.2.3

#### Data Confidentiality

- (a) The following types of confidential data shall be maintained in the system:

- i. Transaction data related to an individual Agency, employer or other system user
  - ii. Personal information on cardholders
  - iii. Revenue and other system-confidential data.
- (b) The system security shall include the following minimum data confidentiality features:
  - i. Features to prevent access to personal or other confidential data by unauthorized users
  - ii. Features to prevent unauthorized association of a user identity with user-specific activities
  - iii. Recording and audit of actions taken by that user.

### **1.3.3 Security Mechanisms**

The Contractor shall identify and document the specific mechanisms to be used to implement the system security services in accordance with the plan. At a minimum, the following information shall be provided.

- (a) For non-cryptographic mechanisms:
  - i. Identification of the security devices for equipment and personnel.
  - ii. Description of access control for applications.
  - iii. Description of the secure routes for the transmission of data and resources.
  - iv. Participants certification process.
  - v. Trusted hardware and software components.
  - vi. Security access process as granted by defined roles.
- (b) For cryptographic mechanisms:
  - i. Description of encryption, including symmetric (private key) and/or asymmetric (public key), for confidentiality.
  - ii. Description of the hash functions for message integrity checks.
  - iii. Description of the digital signatures for authentication and non-repudiation.
- (c) For cryptographic support mechanisms of keys:
  - i. Generation, distribution and archiving.
  - ii. Directories and certification.
  - iii. Recovery/escrow.

#### 1.3.4 Alarms

- (a) As a minimum, the system shall provide the following alarms, and shall notify the appropriate users in the event an alarm is triggered:
- i. Detection of invalid or erroneous data.
  - ii. Detection of a security breach.
  - iii. Detection of a device or system fault.

To the extent the Contractor is unable to access an Agency-supplied communications network in a manner necessary to directly monitor and detect security breaches within said network, the Contractor shall be restricted to information collected by the SNMP server within the Agency (as per section 6.II-8.2.1(d)). The Contractor shall immediately notify the subject Agency of any problems thereby detected.

- (b) All alarms and SNMP traps accessible to Contractor shall be recorded and stored in a database, along with a history of corrective actions.
- (c) Users with associated privileges shall be able to manually override alarms.
- (d) Alarms that are manually overridden shall reactivate at a user-defined period until corrective action is taken and the alarm cleared.

## **6.III-7 WIRELESS DATA ON/OFF LOADING SYSTEM (WDOLS)**

### **6.III-7.1 Subsystem Description**

The Contractor shall provide a Wireless Data On/Off Loading System (WDOLS) (DR 104) as the primary method for permitting connectivity from any ethernet-enabled on-bus device to DACS or other fixed-location equipment. Also, the WDOLS may be used to transfer data from FTPs in remote locations where installing a hard wire communications link is the less cost effective solution, e.g. stand-alone FTPs located on docks in the WSF environment or platforms in the Sound Transit environment, or portable FTPs equipped with a wireless client adapter. The proposed technology shall be subject to the review and approval of the Contract Administrator.

In order to support on-board integration in the bus environment, the WDOLS shall be a stand-alone unit connected initially to the Ethernet Switch, and reconfigurable such that it can be connected in the future to a VLU. High speed ( $\geq 1$  Mbps) data throughput is required in order to support future data on/off load requirements that may include data other than the RFCS data.

### **6.III-7.2 Functional Requirements**

- (a) The WDOLS shall automatically provide wireless connectivity, subject to appropriate network access, when a bus or other FTP equipped with WDOLS communications capabilities (DR 104.01) enters the range of operation.
- (b) WDOLS equipment at transit bases or other fixed locations (DR 104.02) shall be able to communicate with all WDOLS equipped buses, regardless of agency.
- (c) Vehicles shall not be required to stop during the data exchange.
  - i. The Contractor shall indicate the maximum vehicle speed to permit successful data exchange.
  - ii. The vehicle speed limit shall be subject to Contract Administrator approval prior to implementation.
- (d) At a minimum, the WDOLS shall be used for the following:
  - i. Uploading of transaction data captured at the FTP
  - ii. Downloading of files such as:
    - Software configuration files
    - FTP initialization
    - Fare tables
    - Blocked card list
    - Automatic revalue list, if used
    - Other operational parameter tables

### **6.III-7.3 Performance Requirements – WDOLS**

The data transmission speed shall be sufficient to on- and off-load on-board transaction data from the entire fleet or designated remotely located FTPs on a daily basis, at a minimum.

- (a) The WDOLS data transfer process shall be transparent to current operations and shall not require operational modifications.
- (b) The WDOLS shall have a minimum reliability of 30,000 MOHBF.
- (c) The WDOLS Access Point(s) shall provide coverage for a range of at least 1000 feet between the vehicles and external antenna units.
- (d) The data exchange rate shall be a minimum of 1 megabit per second either for a single channel device, or an aggregate of 1 megabit per second for a multi-channel, simultaneous communications device.
- (e) The data exchange shall not be affected by other Radio Frequency (RF) sources or transmissions.
- (f) The WDOLS shall conform to the IEEE 802.11b communications standard or Contract Administrator approved equivalent.
- (g) The WDOLS shall include features to support future upgrade to emerging IEEE 802.1X standards.
- (h) The on-board WDOLS shall be compatible with existing Cisco Aironet 350 equipment and shall not interfere with other 802.11b data transfer systems.

### **6.III-7.4 Physical Requirements – WDOLS**

- (a) In keeping with a modular, open architecture, the WDOLS shall be packaged separately, and not bundled with the FTP or DDU.
- (b) The enclosure materials shall be high strength polycarbonate, cast aluminum, stainless steel or equivalent subject to the review and approval of the Contract Administrator.
- (c) Enclosure shall be vandal resistant, flame retardant and resistant to common solvents and cleaning materials.
- (d) The WDOLS shall be sealed to prevent any degradation in operation due to the accumulation of dust, salt, mud, detergents, solvents, or moisture.
- (e) Any outdoor mounted equipment shall be rated for operation in an exposed environment.

### **6.III-7.5 Electrical Requirements – WDOLS**

#### **7.5.1 Vehicle Mounted Equipment**

The electrical requirements specified in Section 6.III-4.5 shall apply to all vehicle mounted WDOLS equipment.

#### **7.5.2 Base or Terminal Mounted Equipment**

The electrical requirements specified in Section 6.III-I.6 shall apply to all base or terminal mounted WDOLS equipment.

### **6.III-7.6 Data Exchange Requirements – WDOLS**

- (a) The Contractor shall provide a high-speed serial communications device that meets the performance requirements in 6.III-7.3. In the initial, limited integration mode (LIM), the WDOLS shall be connected directly to the Ethernet Switch. In the future, full integration mode (FIM), the WDOLS shall be disconnected from the Ethernet Switch and connected to the VLU.
- (b) Communications between the WDOLS and Ethernet Switch/VLU shall be by high speed (1Mbps or greater) serial communications.
- (c) The WDOLS shall include data integrity features such as, but not limited to, a check to ensure that the data to be downloaded has been captured by the FTP and a check to ensure that no duplicate downloads or uploads of data occur.
- (d) In the event of a failed data exchange attempt, the system shall sound an alarm at the DDU and the DAC, and log the event in the FTP and the DAC.
- (e) Immediately following the failed data exchange event, the DAC shall notify the clearinghouse (or the SNMP server in the cases of King County and WSF) of the event.
- (f) The WDOLS shall also provide anti-collision such that multiple vehicles can be parked in the same area without loss or corruption of data.
- (g) The WDOLS shall be capable of handling data from multiple on-board sources, such as the APC system, AVL system, electronic fare box, and various engine/vehicle monitoring systems.
- (h) The Base WDOLS shall be capable of sorting multiple data types to appropriately labeled files that can be managed with standard data management software.
- (i) The contractor shall propose troubleshooting tools that allow agency staff to identify and fix data exchange problems occurring in the WDOLS.
- (j) The Contractor shall provide a method, subject to Contract Administrator approval, of managing the data exchange to ensure that the appropriate data is exchanged at the appropriate location and time (DR 104.03).
- (k) The WDOLS shall include security protections (DR 104.04) over and above Wired Equivalency Protections to guard against:

- i. Unauthorized access to RFCS data transferred via the WDOLS.
  - ii. Unauthorized access to Agency networks through the wireless system.
- (l) The WDOLS communications approach and security provisions (DR 104.04) shall be subject to approval by each Agency's designated network security group or manager.
- (m) The WDOLS security provisions shall conform to Agency policies or specifications for IEEE 802.11 based wireless technology. Policies and/or specifications shall be provided to the Contractor at Conceptual Design Review.
- (n) The WDOLS shall be designed to migrate from LIM to FIM, where the VLU or other means will be provided for management of data transferred to or from the vehicle.

### **6.III-7.7 Installation Requirements - WDOLS**

#### **7.7.1 Vehicle Mounted Equipment**

- (a) Any WDOLS related equipment on-board any vehicle shall meet the requirements in Section 6.III-4.7.
- (b) The antenna location(s) for each agency shall be subject to approval by the respective Agencies.
- (c) Any exterior mounted equipment shall be sealed to prevent leakage of rain or bus washer fluids through the life of the installation.

#### **7.7.2 Operating Base Access Point Equipment**

- (a) The Access Point equipment shall be mounted in or near a location approved by the Contract Administrator.
- (b) The Contractor shall finalize the locations of any externally mounted Access Point equipment with the Contract Administrator during the design review process (DR 42).
- (c) The Contractor shall mount all supplied WDOLS related equipment and shall make all power and communications connections in accordance with DR 7 (Communications Network).



## **Amendment Eleven to the Contract for the Design, Implementation, Operation and Maintenance of the Regional Fare Coordination System**

This Amendment Eleven to the Contract for the Design, Implementation, Operation and Maintenance of the Regional Fare Coordination System is entered into this \_\_\_\_ day of \_\_\_\_\_, 2005, by and between ERG Transit Systems (USA) Inc, a California corporation and wholly owned subsidiary of ERG Limited, an Australian corporation, (hereinafter referred to as the "Contractor") and each of the following seven public transportation agencies (hereinafter referred to individually as an "Agency" or collectively as the "Agencies"):

1. Central Puget Sound Regional Transit Authority ("Sound Transit")
2. King County ("King County")
3. Kitsap County Public Transportation Benefit Area ("Kitsap Transit")
4. Pierce County Public Transportation Benefit Area ("Pierce Transit")
5. Snohomish County Public Transportation Benefit Area ("Community Transit")
6. City of Everett ("Everett")
7. State of Washington, acting through the Washington State Department of Transportation, Washington State Ferries Division ("WSF")

### **Recitals**

A. Effective April 29, 2003, each of the Agencies and the Contractor entered into Contract #229944 ("Contract") to implement a Regional Fare Coordination System ("RFC System") to establish a common fare system utilizing smart card technology. The Contractor is responsible for the development, implementation, operation and maintenance of the RFC System as specified in the Contract.

B. It has been determined in the design process that King County and WSF will utilize their respective agency network configurations to permit the use of SNMP collections servers to provide RFCS-related information.

C. The Parties desire to modify the Contract as needed to reflect these design decisions.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, the sufficiency of which is hereby acknowledged, the Parties hereby agree to amend the Contract as follows:

**Section 1.0** Section 3.I-58, "RFC System Warranty and Post-Warranty Maintenance", is hereby amended as follows:

#### **58.1 GENERAL**

58.1.1 Following Full System Acceptance, the Contractor shall provide maintenance for all equipment and other elements of the RFC System in accordance with the Warranty and Post-Warranty provisions of this Section, except as follows:

- a. the RCU, for which the Contractor shall only provide Warranty Maintenance pursuant to Section 58.3;
- b. software and firmware, for which the Contractor provides maintenance as specified above in Sections 56 and 57;
- c. retail re-value equipment, for which the Contractor provides maintenance under the service fee for Revalue Network Support Services;
- d. central system network and equipment, for which the Contractor provides maintenance under the service fees for Clearinghouse Services and Network Management;
- e. Agency-supplied networks and Agency-supplied access point equipment;
- f. WSF-supplied SNMP collection server.

58.1.2 The term "maintenance" as used in this section with respect to the Contractor's responsibilities shall include:

- a. Furnishing all labor, tools, materials and equipment, and the replacement and/or installation of all parts, software, components, supplies and equipment necessary to maintain the RFCS such that it is capable of operation in accordance with the Contract requirements.
- b. All inspection, adjustment, diagnosis, analysis, re-calibration, cleaning, lubrication, testing, sealing, replacement and replenishment of parts, equipment, consumables, and expendables, and repair or replacement of equipment under the on-site and depot maintenance programs.
- c. The replacement of any RFCS components which are visible to the public that become deteriorated in appearance.

58.1.3 The Contractor shall provide a comprehensive Maintenance Plan, which is a required Contract deliverable under Section 6.II-11.6 (CDRL 8), addressing all aspects of the maintenance program, including Contractor and Agency responsibilities as set forth in Section 3.I-58.5. Regarding On-Site Maintenance, the Maintenance Plan shall include (i) hierarchy of priorities, (ii) response times and (iii) other performance measurement criteria.

58.1.4 The Contractor shall, as part of its reporting obligations described in Section 6.III-13.3, provide all reports necessary for Contractor and Agency personnel to maintain the system and monitor the maintenance functions. Maintenance Report Formats shall be documented in System Maintenance

Reports, which is a required Contract deliverable under Section 6.II-11.6 (CDRL 10). At a minimum, System Maintenance Reports shall include:

- a. monthly system wide inventory report
- b. monthly summary fault tracking report
- c. monthly extended maintenance report
- d. monthly technical support service statistics report
- e. daily exception summary report

58.1.5 In addition to training and certifying its own maintenance personnel, the Contractor shall provide training, as described in Section 6.II-12, to Agency personnel to perform equipment monitoring and first line and preventive maintenance for equipment installed on Agency premises, including on-board equipment and on-site agency equipment. The Contractor shall provide all necessary proprietary tools, equipment and fixtures to each Agency for performing such monitoring and maintenance.

## **58.2 Contractor's Maintenance Responsibilities**

The Contractor shall satisfy its maintenance obligations through the performance of the following maintenance services:

### **a. Depot Maintenance and On-Site Maintenance**

The Contractor shall maintain all RFCS System equipment in accordance with the Contract requirements and the terms of the Depot and On-Site Maintenance Exhibits which are attached hereto and made part hereof as Exhibits 14 and 15, respectively.

### **b. Central System**

The Contractor shall maintain all RFC System facilities, equipment and software located elsewhere than at the Agencies' sites in accordance with the Contract requirements for Central System services.

### **c. Retail Re-value Equipment**

The Contractor shall maintain all RFC System facilities, equipment and software located at retailer sites in accordance with the Contract requirements for Revalue Network Support Services.

### **d. Technical Support Services**

The Contractor shall provide Technical Support Services to the Agencies in accordance with Section 6.II-10.2.1 of this Contract.

## **58.3 Warranty Maintenance (excluding Software Warranty)**

58.3.1 The Contractor shall provide maintenance in accordance with the Depot and On-Site Maintenance Exhibits which are attached hereto and made part hereof as Exhibits 14 and 15, respectively, at no charge to the Agencies during

the Warranty Period except as provided below.

58.3.2 If at any point during the Warranty Period it is determined that a unit of equipment is not operating in compliance with the Contract requirements, the following processes shall be utilized:

- a. The Agency in possession of a noncompliant DDU, OBFTP, WDOLS, Ethernet Switch, GAK (if applicable), PFTP, SAFTP or TVM transaction processor shall remove the noncompliant unit, install a replacement unit from its inventory of spares and ship the noncompliant unit to the Contractor. Except as provided below, the Contractor shall reimburse the Agency for its reasonable costs of taking such removal, installation and shipment actions (collectively referred to as "change-out costs") and the Contractor shall deliver a replacement for any noncompliant unit at no cost to the Agencies.
- b. The Contractor, at its expense except as provided below, shall repair on site or remove and replace a noncompliant CST, DAC, BOC server and client computers, SNMP collection server, or photo ID unit.

58.3.3 Provided, however, the Agency shall pay the Contractor for the repair/replacement of such noncompliant equipment and shall not be entitled to reimbursement of any change-out costs if:

- a. On-Site Maintenance is required due to a software file being modified or deleted from a unit of On-Site Equipment by the intentional or negligent act of an Agency employee, Agency Consultant, or other third party not under Contractor control; or
- b. the unit of Depot or On-Site Equipment was rendered noncompliant as a result of being physically damaged after acceptance; and
  - (i) the physical damage was not caused by the Contractor's failure to comply with the "ruggedizing" and other requirements of the Contract; and
  - (ii) the physical damage was beyond normal wear and tear and was caused by:
    - (a) a Force Majeure event; or
    - (b) deliberate or negligent act of a person other than the Contractor, its Subcontractors of any tier and their respective officers, directors, employees, agents and representatives.

The cost of a repair shall include, subject to the provision of documentation required for Contract Claims under Section 3.1-33, the reasonable labor costs (calculated by multiplying the actual hours reasonably required for the repair by the applicable hourly labor rate for person performing the repairs as provided in Exhibit 9, Section XVII) and the reasonable material costs including a reasonable material mark-up for overhead/profit not exceeding 31.3%. The cost of a replacement shall be the applicable unit purchase price as provided in Exhibit 9, Section II. Absent prior agreement by an Agency, an Agency shall not be required to pay repair costs under this subsection that exceed fifty percent (50%) of the cost of a new unit of equipment and the Contractor shall replace such unit at the applicable purchase price as provided in Exhibit 9, Section II.

58.3.4 If a unit of equipment is determined to be noncompliant with Contract requirements due to a combination of physical damage for which an Agency is responsible and physical damage or other causes for which an Agency is not responsible, any replacement and change-out costs shall be apportioned between the Agency and the Contractor according to their relative shares of responsibility for the noncompliance.

58.3.5 If the Contractor believes that it is entitled to additional payment under one of the exceptions in Subsection 58.3.3 above, the Contractor shall submit a Contract Claim in accordance with Section 3.1-33 and shall preserve the subject device for inspection by the Contract Administrator and the DRB.

#### **58.4 Post-Warranty Maintenance**

58.4.1 Following the Warranty Period, the Contractor shall provide Depot maintenance of a DDU, OBFTP, WDOLS, GAK (if applicable), PFTP, SAFTP or TVM transaction processor that is not compliant with the Contract requirements and the Agencies shall pay for same, to the extent provided in Exhibit 14.

58.4.1 Following the Warranty Period, the Contractor shall provide On-Site maintenance of a CST, DAC, BOC server and client computers, SNMP collection server, or photo ID unit that is not compliant with the Contract requirements and the Agencies shall pay for same, to the extent provided in Exhibit 15.

#### **58.5 AGENCY MAINTENANCE RESPONSIBILITIES**

Upon completion of training by the Contractor and for the duration of the Contract, the Agencies will perform the following maintenance services:

- a. Equipment monitoring and cleaning, including:
  - (i) Routine functional checks and monitoring of equipment located on Agency premises, including on-board equipment and on-site agency equipment.
  - (ii) Resolution of minor operational problems (e.g., unit requiring manual rebooting, stuck cash drawer, communications error requiring manual intervention, adjustment of brightness of display screen).
  - (iii) Equipment cleaning and lubrication.
- b. First line maintenance, including:
  - (i) Troubleshooting to the level of a unit of equipment.
  - (ii) Removing and replacing a suspected bad or malfunctioning unit of equipment.
  - (iii) Confirming proper equipment and system operation.
- c. Preventive maintenance, including:

- (i) Routine functional equipment checks and inspections.
- (ii) Internal equipment cleaning and lubrication.
- (iii) Running diagnostics tests.

**Section 2.0** Exhibit 14, "Post Warranty Depot Maintenance", Section One, "Equipment to be Maintained," is hereby amended as follows:

**SECTION ONE: EQUIPMENT TO BE MAINTAINED**

The following equipment, including any part thereof, shall be referred to herein as a "unit of Agency equipment" and shall be maintained by the Contractor according to the terms of this Exhibit and the Contract:

- (a) Onboard Fare Transaction Processors (OBFTP)
- (b) Driver Display Units (DDU)
- (c) Contractor-supplied Onboard Wireless Data On/Off Loading System (WDOLS) including devices on-board vehicles and at bases or fixed locations
- (d) Ethernet Switch
- (e) Gate Adaptation Kit (GAK) (if applicable)
- (f) Portable Fare Transaction Processors (PFTP)
- (g) Stand Alone Fare Transaction Processor (SAFTP)
- (h) Integration with Sound Transit TVM's (transaction processor "kits")

**Section 3.0** Exhibit 15, "Post Warranty On-site Maintenance", is hereby amended as follows:

**SECTION ONE: EQUIPMENT TO BE MAINTAINED**

The following Contractor-supplied equipment, including any part thereof ("On-Site Equipment"), shall be maintained by the Contractor according to the terms of this Exhibit and the Contract:

- (a) Customer Service Terminals (CST)
- (b) Data Acquisition Computers (DAC)
- (c) Back Office Computer Systems (BOC) (server and client computers)
- (d) SNMP Collection Server
- (e) Photo ID System

**Section 4.0** Exhibit 9, Section II, "Equipment Prices" is hereby amended as follows:

**II. EQUIPMENT Prices**

**A. FARE TRANSACTION PROCESSOR (FTP)**

Range of Quantities
---------------------

<b>A.1 On Board FTP (unit price includes Ethernet Switch for Agency orders for Phase I and Phase II procurement by ERG)</b>	<b>1,500 or less</b>	<b>1,501-3,000</b>	<b>Over 3,000</b>
<b>PRICE PER UNIT</b>	<b>\$721</b>	<b>\$687</b>	<b>\$680</b>
<b>A.2 Stand Alone FTP</b>	<b>50 or less</b>	<b>51-80</b>	<b>Over 80</b>
a. Sound Transit Configuration (w/buttons)	\$3,626	\$3,463	\$3,435
b. WSF Configuration (w/o buttons)	\$3,522	\$3,354	\$3,321
<b>A.3 Portable FTP</b>	<b>100 or less</b>	<b>101-500</b>	<b>Over 500</b>
a. Portable FTP – verifier only	\$1,327	\$1,300	\$1,274
b. Portable FTP – Full Function (Thyron)	\$1,792	\$1,756	\$1,721
c. Portable FTP – Original Submission (P4000)	\$2,102	\$2,081	\$2,060

B.

<b>DRIVER DISPLAY UNIT</b>	<b>1,500 or less</b>	<b>1,501-3,000</b>	<b>Over 3,000</b>
<b>PRICE PER UNIT</b>	<b>\$1365</b>	<b>\$1302</b>	<b>\$1289</b>

**C. WIRELESS DATA ON/OFF LOADING SYSTEM**

<b>C.1 Base/Terminal Module</b>	<b>10 or less</b>	<b>11-20</b>	<b>Over 20</b>
<b>PRICE PER UNIT</b>	<b>\$3,919</b>	<b>\$3,732</b>	<b>\$3,554</b>
<b>C.2 On-Board Vehicle Module (Non Ruggedized)</b>	<b>1,500 or less</b>	<b>1,501-3,000</b>	<b>Over 3,000</b>
<b>PRICE PER UNIT</b>	<b>\$631</b>	<b>\$601</b>	<b>\$595</b>
<b>C.3 On-Board Vehicle Module (Ruggedized)</b>	<b>1,500 or less</b>	<b>1,501-3,000</b>	<b>Over 3,000</b>
<b>PRICE PER UNIT</b>	<b>\$1103</b>	<b>\$1090</b>	<b>\$1069</b>

D.

<b>DATA ACQUISITION COMPUTER (DACs)</b>	<b>15 or less</b>	<b>16-30</b>	<b>Over 30</b>
<b>PRICE PER UNIT</b>	<b>\$13,856</b>	<b>\$13,196</b>	<b>\$13,064</b>

E.

<b>BACK OFFICE SERVER and CLIENT COMPUTER (unit price includes one server and one client computer)</b>	<b>3 or less</b>	<b>4-8</b>	<b>Over 8</b>
<b>PRICE PER UNIT</b>	<b>\$61,693</b>	<b>\$58,755</b>	<b>\$55,957</b>

F.

<b>INTEGRATION w/ SOUND TRANSIT TVMs</b>	<b>30 or less</b>	<b>31-50</b>	<b>Over 50</b>
<b>PRICE PER UNIT</b>	<b>\$2,494</b>	<b>\$2,375</b>	<b>\$2,352</b>

G.

**CUSTOMER SERVICE TERMINAL**

<b>G.1 Full Function CST (modules I through IX)</b>	<b>15 or less</b>	<b>16-30</b>	<b>Over 30</b>
<b>PRICE PER UNIT</b>	<b>\$9,357</b>	<b>\$8,911</b>	<b>\$8,487</b>
<b>G.2 Modularized CST</b>	<b>15 or less</b>	<b>16-30</b>	<b>Over 30</b>

i. CPU and software, data communications & secure access module	\$4,362	\$4,155	\$3,957
ii. Magnetic card reader	Inc in Pinpad	Inc in Pinpad	Inc in Pinpad
iii. PIN pad	\$951	\$906	\$862
iv. Agent Display	\$1,058	\$1,007	\$959
v. Customer Display	Inc in Pinpad	Inc in Pinpad	Inc in Pinpad
vi. Fare card reader/writer, desktop	\$660	\$628	\$598
vii. Keyboard	Inc in CPU	Inc in CPU	Inc in CPU
viii. Printer – receipt	\$1,692	\$1,611	\$1,535
ix. Cash drawer	\$635	\$604	\$576

H.

ADDITIONAL CST PERIPHERALS	4 or less	5-10	Over 10
i. Photo ID Equipment	\$19,139	\$18,227	\$17,359
ii. Card Dispensing Module	\$1,948	\$1,909	\$1,870

I.

WSF Gate Adaption Kits (GAK)	125 or less		
PRICE PER UNIT	\$1,519		

J.

**ITEM (I) PRICES EXPIRE EFFECTIVELY: 4-Sep-2005**

SNMP COLLECTION SERVER AND SOFTWARE	3 or less (price/unit)
i. SNMP COLLECTION SERVER	\$4,646
ii. HP OPENVIEW LICENSE (SOFTWARE) (SOLARIS-BASED)	\$5,900
iii. IIP OPENVIEW LICENSE (SOFTWARE) (WINDOWS-BASED)	\$7,000



**Section 5.0** Exhibit 9, Section IV, "Equipment Installation" is hereby amended as follows:

#### IV. EQUIPMENT INSTALLATION

		Range of Quantities		
A.	<b>ON BOARD FTP</b>	<b>1,500 or less</b>	<b>1,501-3,000</b>	<b>Over 3,000</b>
	INSTALLATION COST PER UNIT <i>(Cost includes the Driver Display Unit, Ethernet Switch, Wireless data on/off Loading devices, and the necessary installation equipment and materials as reasonably agreed between Parties.)</i>	\$84 (less a credit of \$7.87 if DDU fixed mount not provided)	\$80 (less a credit of \$7.87 if DDU fixed mount not provided)	\$80 (less a credit of \$7.87 if DDU fixed mount not provided)
B.	<b>STAND ALONE FTP</b>	<b>50 or less</b>	<b>51-80</b>	<b>Over 80</b>
	INSTALLATION COST PER UNIT	\$683	\$651	\$644
C.	<b>PORTABLE FTP</b>	<b>100 or less</b>	<b>101-500</b>	<b>Over 500</b>
	INSTALLATION COST PER UNIT	\$138	\$136	\$135
D.	<b>DATA ACQUISITION COMPUTER (DACs)</b>	<b>15 or less</b>	<b>16-30</b>	<b>Over 30</b>
	INSTALLATION COST PER UNIT	\$1,213	\$1,155	\$1,144
E.	<b>BACK OFFICE SERVER AND CLIENT COMPUTER (unit price includes one server and one client computer)</b>	<b>3 or less</b>	<b>4-8</b>	<b>Over 8</b>
	INSTALLATION COST PER UNIT	\$1,104	\$1,051	\$1,001
F.	<b>INTEGRATION w/ SOUND TRANSIT TVMs</b>	<b>30 or less</b>	<b>31-50</b>	<b>Over 50</b>
	INSTALLATION COST PER UNIT	N/A	N/A	N/A
G.	<b>CUSTOMER SERVICE TERMINAL (CST)</b>	<b>15 or less</b>	<b>16-30</b>	<b>Over 30</b>
	INSTALLATION COST PER UNIT	\$1,553	\$1,479	\$1,408
H.	<b>SNMP COLLECTION SERVER AND SOFTWARE</b>	<b>3 or less (price/unit)</b>		
	i. SNMP COLLECTION SERVER HARDWARE INSTALLATION COST PER UNIT	\$1,104		
	ii. HP OPENVIEW LICENSE (SOFTWARE) INSTALLATION AND SERVER CONFIGURATION COST PER UNIT/LICENSE	\$9,846		

**Section 6.0** Exhibit 9, Section VIII, "Maintenance Service Contract", is hereby amended as follows:

#### VIII. MAINTENANCE SERVICE CONTRACT

**DEPOT MAINTENANCE**

Cost per event, per unit

## Range of Quantities

**A. FARE TRANSACTION PROCESSOR (FTP)**

<b>A.1 On Board FTP</b>	<b>1,500 or less</b>	<b>1,501-3,000</b>	<b>Over 3,000</b>
<b>COST PER EVENT, PER UNIT</b>	<b>\$118.75</b>	<b>\$115.85</b>	<b>\$113.53</b>
<b>A.2 Stand Alone FTP</b>	<b>50 or less</b>	<b>51-80</b>	<b>Over 80</b>
<b>COST PER EVENT, PER UNIT</b>	<b>\$480.91</b>	<b>\$469.18</b>	<b>\$459.80</b>
<b>A.3 Portable FTP</b>	<b>100 or less</b>	<b>101-500</b>	<b>Over 500</b>
<b>COST PER EVENT, PER UNIT</b>	<b>\$354.21</b>	<b>\$347.13</b>	<b>\$340.19</b>

**B.**

<b>DRIVER DISPLAY UNIT</b>	<b>1,500 or less</b>	<b>1,501-3,000</b>	<b>Over 3,000</b>
<b>COST PER EVENT, PER UNIT</b>	<b>\$141.68</b>	<b>\$138.21</b>	<b>\$135.44</b>

**C. WIRELESS DATA ON/OFF LOADING SYSTEM**

<b>C.1 Base/Terminal Module if supplied by Contractor</b>	<b>10 or less</b>	<b>11-20</b>	<b>Over 20</b>
<b>COST PER EVENT, PER UNIT</b>	<b>\$349.01</b>	<b>\$340.49</b>	<b>\$332.19</b>
<b>C.2 On-Board Vehicle Module</b>	<b>1,500 or less</b>	<b>1,501-3,000</b>	<b>Over 3,000</b>
<b>COST PER EVENT, PER UNIT</b>	<b>\$117.93</b>	<b>\$115.06</b>	<b>\$112.76</b>

**D.**

<b>TVM INTEGRATION KIT</b>	<b>30 or less</b>	<b>31-50</b>	<b>Over 50</b>
<b>COST PER EVENT, PER UNIT</b>	<b>\$186.26</b>	<b>\$181.72</b>	<b>\$178.08</b>

**ON-SITE MAINTENANCE**

Monthly Cost per Unit

## Range of Quantities

**E.**

<b>DATA ACQUISITION COMPUTER (DAC)</b>	<b>15 or less</b>	<b>16-30</b>	<b>Over 30</b>
<b>MONTHLY COST PER UNIT</b>	<b>\$47.39</b>	<b>\$45.14</b>	<b>\$44.68</b>

**F.**

<b>BACK OFFICE SERVER and CLIENT COMPUTER (unit price includes one server and one client computer)</b>	<b>3 or less</b>	<b>4-8</b>	<b>Over 8</b>
<b>MONTHLY COST PER UNIT</b>	<b>\$145.76</b>	<b>\$138.82</b>	<b>\$132.21</b>

**G.**

<b>CUSTOMER SERVICE TERMINAL (CST)</b>	<b>15 or less</b>	<b>16-30</b>	<b>Over 30</b>
<b>MONTHLY COST PER UNIT</b>	<b>\$57.62</b>	<b>\$54.88</b>	<b>\$52.27</b>

**H.**

<b>PHOTO I.D. SYSTEM</b>	<b>4 or less</b>	<b>5-10</b>	<b>Over 10</b>
<b>MONTHLY COST PER UNIT</b>	<b>\$122.26</b>	<b>\$116.44</b>	<b>\$110.89</b>

**I.**

<b>WSE GATE ADAPTATION KIT (GAK)</b>	<b>4 or less</b>	<b>5-10</b>	<b>Over 10</b>
<b>COST PER EVENT, PER UNIT</b>	<b>\$480.91</b>	<b>\$458.02</b>	<b>\$436.21</b>

**J.**

<b>SNMP COLLECTION SERVER</b>	<b>3 or less (price/unit)</b>
<b>i. SNMP COLLECTION SERVER MONTHLY COST PER UNIT</b>	<b>\$396</b>

**TECHNICAL SUPPORT SERVICES**

Monthly Cost per Unit

**A. FARE TRANSACTION PROCESSOR (FTP)**

<b>A.1 On Board FTP</b>	<b>1,500 or less</b>	<b>1,501-3,000</b>	<b>Over 3,000</b>
MONTHLY COST PER UNIT	\$0.60	\$0.58	\$0.57
<b>A.2 Stand Alone FTP</b>	<b>50 or less</b>	<b>51-80</b>	<b>Over 80</b>
MONTHLY COST PER UNIT	\$3.12	\$2.97	\$2.94
<b>A.3 Portable FTP</b>	<b>100 or less</b>	<b>101-500</b>	<b>Over 500</b>
MONTHLY COST PER UNIT	\$1.87	\$1.85	\$1.83

**B.**

<b>DRIVER DISPLAY UNIT</b>	<b>1,500 or less</b>	<b>1,501-3,000</b>	<b>Over 3,000</b>
MONTHLY COST PER UNIT	\$1.15	\$1.09	\$1.08

**C. WIRELESS DATA ON/OFF LOADING SYSTEM**

<b>C.1 Base/Terminal Module if supplied by Contractor</b>	<b>10 or less</b>	<b>11-20</b>	<b>Over 20</b>
MONTHLY COST PER UNIT	\$2.76	\$2.62	\$2.50
<b>C.2 On-Board Vehicle Module</b>	<b>1,500 or less</b>	<b>1,501-3,000</b>	<b>Over 3,000</b>
MONTHLY COST PER UNIT	\$0.69	\$0.65	\$0.65

**D.**

<b>TVM INTEGRATION KIT</b>	<b>30 or less</b>	<b>31-50</b>	<b>Over 50</b>
MONTHLY COST PER UNIT	\$1.17	\$1.11	\$1.10

**E.**

<b>DATA ACQUISITION COMPUTER (DAC)</b>	<b>15 or less</b>	<b>16-30</b>	<b>Over 30</b>
MONTHLY COST PER UNIT	\$5.66	\$5.39	\$5.33

**F.**

<b>BACK OFFICE SERVER and CLIENT COMPUTER (unit price includes one server and one client computer)</b>	<b>3 or less</b>	<b>4-8</b>	<b>Over 8</b>
MONTHLY COST PER UNIT	\$17.40	\$16.57	\$15.78

**G.**

<b>CUSTOMER SERVICE TERMINAL (CST)</b>	<b>15 or less</b>	<b>16-30</b>	<b>Over 30</b>
MONTHLY COST PER UNIT	\$6.88	\$6.55	\$6.24

**H.**

<b>PHOTO I.D. SYSTEM</b>	<b>4 or less</b>	<b>5-10</b>	<b>Over 10</b>
MONTHLY COST PER UNIT	\$14.59	\$13.90	\$13.23

**I.**

<b>WSF GATE ADAPTATION KIT (GAK)</b>	<b>4 or less</b>	<b>5-10</b>	<b>Over 10</b>
MONTHLY COST PER UNIT	\$3.12	\$2.97	\$2.94

**J.**

<b>SNMP COLLECTION SERVER AND SOFTWARE</b>	<b>3 or less (price/unit)</b>
i. SNMP COLLECTION SERVER AND SOFTWARE MONTHLY COST PER UNIT/LICENSE	\$17.40

**SOFTWARE MAINTENANCE SERVICES**

Fixed Monthly Fee:

\$31,885

**Section 7.0** All other provisions of the Contract not referenced in this Amendment Eleven shall remain in effect unless modified in other executed Amendments and Change Orders.